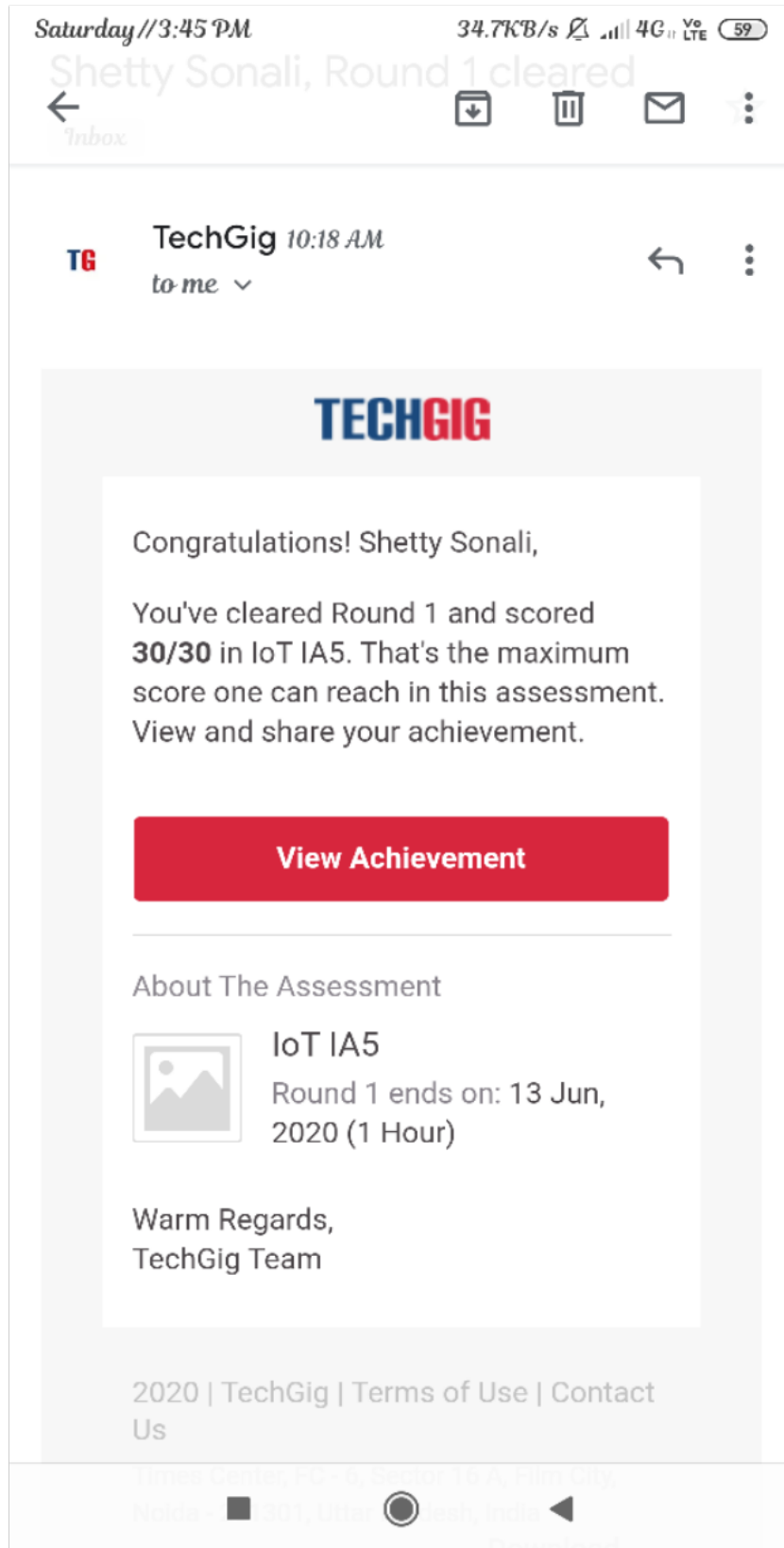




## DAILY ONLINE ACTIVITIES SUMMARY

Date:	13/06/2020	Name:	Shetty Sonali Sanjeeva
Sem & Sec	8 <sup>th</sup> B	USN:	4AL16CS123
Online Test Summary			
Subject	Iot		
Max. Marks	30	Score	30
Certification Course Summary			
Course	Machine learning with python		
Certificate Provider	Cognitive classes.ai	Duration	3 hour
Coding Challenges			
Problem Statement –  C program to find first non repeating character in a string			
Status: Solved			
Uploaded the report in Github		yes	
If yes Repository name		SONALI SHETTY	
Uploaded the report in slack		yes	

## Online Test Details:




## Certification Course Details:



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### Lab: KNN

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This course uses **CC Labs**, an online virtual lab environment to help you get hands-on experience without the hassle of installing and configuring the tools. You will get access to popular open-source data science tools **right inside your browser**, like **Jupyter Notebooks**, which you will use to get hands-on practice with Spark in this lab.

**How to start the exercises for this module (Jupyter Notebook):**

Click the **Start lab** buttons below, follow the instructions in the notebook and start learning! :)

You can click the arrows and icon buttons above to see the answers for this lab.

**Still have problems getting the exercise to open?** We want to know right away! Contact us via the **Support** button on the right-hand side of this window, so we can get it fixed for you and all the other students.

---

### K Nearest Neighbours

In this Lab you will load a customer dataset related to a telecommunication company, clean it, use KNN (K-Nearest Neighbours) to predict the category of customers, and evaluate the accuracy of your model. Let's learn about KNN and see how we can apply it real world problems.

[Start lab](#)

Download lab: [MLD101EN-Clas-K-Nearest-neighbors-CustCat-py-v1.ipynb](#)

---

#### Want to learn more?

...Did you know?... When it comes to Machine Learning, you will likely be working with large datasets. As a business, where can you host your data? IBM is offering a unique opportunity for businesses, with 10 Tb of IBM Cloud Object Storage: [Sign up now for free](#)

IBM SPSS Modeler is a comprehensive analytics platform that has many machine learning algorithms. It has been designed to bring predictive intelligence to decisions made by individuals, by groups, by systems – by your enterprise as a whole. A free trial is available through this course, available here: [SPSS Modeler](#).

Also, you can use Watson Studio to run these notebooks faster with bigger datasets. Watson Studio is IBM's leading cloud solution for data scientists, built by data scientists. With Jupyter notebooks, RStudio, Apache Spark and popular libraries pre-packaged in the cloud, Watson Studio enables data scientists to collaborate on their projects without having to install anything. Join the fast-growing community of Watson Studio users today with a free account at [Watson Studio](#)

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## Instructions for Graded Review Questions

### 1. Time allowed: **Unlimited**

- We encourage you to go back and review the materials to find the right answer
- Please remember that the Review Questions are worth 50% of your final mark.

### 2. Attempts per question:

- One attempt - For True/False questions
- Two attempts - For any question other than True/False

### 3. Clicking the "**Final Check**" button when it appears, means your submission is **FINAL**. You will **NOT** be able to resubmit your answer for that question ever again

### 4. Check your grades in the course at any time by clicking on the "Progress" tab

## Review Question 1

1/1 point (graded)

In K-Nearest Neighbors, which of the following is true:

- ☒ A very high value of  $K$  (ex.  $K = 100$ ) produces an overly generalised model, while a very low value of  $k$  (ex.  $k = 1$ ) produces a highly complex model. ✓
- ☐ A very high value of  $K$  (ex.  $K = 100$ ) produces a model that is better than a very low value of  $K$  (ex.  $K = 1$ )
- ☐ A very high value of  $k$  (ex.  $k = 100$ ) produces a highly complex model, while a very low value of  $K$  (ex.  $K = 1$ ) produces an overly generalized model.

Submit

You have used 1 of 2 attempts

Save

## Review Question 2

1/1 point (graded)

A classifier with lower log loss has better accuracy.

- ☒ True ✓
- ☐ False

Submit

You have used 1 of 1 attempt

## Review Question 3

1/1 point (graded)

When building a decision tree, we want to split the nodes in a way that decreases entropy and increases information gain.

- ☒ True ✓
- ☐ False

Submit

You have used 1 of 1 attempt

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Intro to Classification (3:53)

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Intro to Classification (3:53)

How does classification work?

Classification determines the class label for an unlabeled test case.

id	age	sex	education	income	debt	credit	default
1	25	M	High	12000	1000	1000	0
2	30	F	High	15000	1500	1500	0
3	35	M	High	18000	2000	2000	0
4	40	F	High	20000	2500	2500	0
5	45	M	High	22000	3000	3000	0
6	50	F	High	25000	3500	3500	0
7	55	M	High	28000	4000	4000	0
8	60	F	High	30000	4500	4500	0
9	65	M	High	32000	5000	5000	0
10	70	F	High	35000	5500	5500	0
11	25	M	Low	8000	500	500	1
12	30	F	Low	10000	1000	1000	1
13	35	M	Low	12000	1500	1500	1
14	40	F	Low	15000	2000	2000	1
15	45	M	Low	18000	2500	2500	1
16	50	F	Low	20000	3000	3000	1
17	55	M	Low	22000	3500	3500	1
18	60	F	Low	25000	4000	4000	1
19	65	M	Low	28000	4500	4500	1
20	70	F	Low	30000	5000	5000	1

Standard Values

to predict which customers are likely to have problems repaying loans, these "bad risk" customers can either have their loan application declined or offered alternative products.

The goal of a loan default predictor is to use existing loan default data, which is information about the customers (such as age, income, education, etc.), to build a classifier, pass a new customer or potential future defaulter to the model, and then label it (i.e. the data points) as "Defaulter" or "Not Defaulter", or for example, 0 or 1.

This is how a classifier predicts an unlabeled test case.

Please notice that this specific example was about a binary classifier with two

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Evaluation Metrics in Classification (7:09)

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Evaluation Metrics in Classification (7:09)

ML0101EN v3 - Evaluation Metrics in Classi...

F1-score

- Precision =  $TP / (TP + FP)$
- Recall =  $TP / (TP + FN)$
- F1-score =  $2 \times (prc \times rec) / (prc + rec)$

	precision	recall	f1-score
Class = 0	0.73	0.96	0.83
Class = 1	0.50	0.48	0.50

Avg Accuracy = 0.72

Confusion matrix

Actual \ Predicted	0	1
0	16 TP	3 FP
1	2 FN	24 TN

Start of transcript. Skip to the end.

Holla, and welcome!

In this video, we'll be covering evaluation metrics for classifiers.

So let's get started.

Evaluation metrics explain the performance of a model.

Let's talk more about the model evaluation metrics that are used for classification.

Imagine that we have an historical dataset which shows the customer churn for a

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## Coding Challenges Details:

```
#define MAX_SIZE 256
```

```
//5
```

```
struct element{
```

```
int count;
```

```
int index;
```

```
};
```

```
//6
```

```
int findFirstNonRepeatedChar(char *str){
```

```
//7
```

```
struct element *recordTable = (struct element *)calloc(sizeof(struct  
element),MAX_SIZE);
```

```
//8
```

```
int i;
```

```
int resultElementIndex = - 1;
```

```
//9
```

```
for(i=0 ; *(str+i) ; i++){
```

```
if(!isspace(*(str+i))){
```

```
recordTable[*(str+i)].count ++;
```

```
recordTable[*(str+i)].index = i;
```

```
}
```

```
}
```

```

//10

for(i=0; i < MAX_SIZE ; i++){

//11

if(recordTable[i].count == 1){

//12

if(resultElementIndex == - 1){

resultElementIndex = recordTable[i].index;

}else{

if(recordTable[i].index < resultElementIndex){

resultElementIndex = recordTable[i].index;

}

}

}

}

//13

return resultElementIndex;

}

int main(){

//1

char str[100];

//2

```

```
printf("Enter a string : \n");

fgets(str,100,stdin);

//3

int index = findFirstNonRepeatedChar(str);

//4

if(index == -1){

printf("No element found \n");

}else{

printf("First non- repeated character % c \n",str[index]);

}

}
```